

## **COLUMBIA RIVER REGIONAL FORUM**

### **TECHNICAL MANAGEMENT TEAM**

July 30, 2008 Meeting

#### **FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS**

Facilitator: Robin Gumpert

Notes: Erin Halton

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

#### **Review of Minutes/Agenda**

The 7/16 official meeting minutes and facilitator notes had been posted to the web. No further changes were made to the notes during the meeting and they were considered final.

#### **2008 Summer Treaty Fishing**

Kyle Dittmer, CRITFC, reported on SOR 2008-C5, posted as a link to the TMT agenda. The request was for stable 1' elevation constraints for The Dalles, John Day, and Bonneville pools. Dittmer said he will provide a Summer Treaty Fishing review at the 8/13 TMT meeting and added that the autumn fishing season is expected to start approximately the third week of August. Jim Adams, COE, said that the COE planned to operate the Bonneville pool under a 1' hard /1.5' soft constraint, The Dalles under a 3' hard /1.5' soft constraint and John Day under a 1.5' hard constraint, as was the case for the four previous treaty fishing requests.

#### **Libby & Hungry Horse Summer Operations**

Jim Adams, COE, reported on Libby operations: the project was at elevation 2444.2', with 13 kcfs outflows and 10 kcfs inflows, slowly drafting to the target 2439' by the end of August. Amy Reese, COE, said recent inflow forecasts were fairly low, and that the COE planned to shift outflows down to 12 kcfs on Friday, 8/1. It was noted that the bull trout flow minimum for July-August is 8 kcfs. Jim Litchfield, Montana, noted appreciation for fairly stable flows. Adams reported that outflows were dropped to 4 kcfs on Sunday 7/27 to assist with the local sheriff's recovery of a drowned body. The COE had also communicated the drop in outflows with TMT members via email.

John Roache, BOR reported that Hungry Horse was at an elevation of 3555', with current outflows of 6.4-6.5 kcfs. The ESP 50% trace from the RFC's July 29 ESP run showed that maintaining the current discharge of 6.4-6.5 kcfs would result in an August 31 elevation of 3540 feet.. Jim Adams, COE, reported the Randy Wortman will continue running and posting ESP modeling results through mid August, per feedback from TMT members.

### **Dworshak Operations Update**

Jim Adams, COE, reported that the project was at elevation 1583.9', with inflows between 2.5-3 kcfs, and outflows at 14 kcfs. Adams reported on an issue that had recently developed with the Regulating Outlet (RO) #2 at Dworshak. Steve Hall, COE, further reported that on Thursday morning of last week a pin broke loose in RO #2 and the gate will need to be out for several months for repair. Hall said there is concern over similar wear and tear in the other two gates and that the COE is strategizing on how and when to best inspect RO's 1 and 3. Hall said that any proposed inspection will require a lowered pool elevation and COE Commander's approval, due to the potential risk to human safety associated with the inspection and repair work. They gave a heads up that given this issue, there is a slight possibility the project might not meet an end of August target elevation of 1535'. Regarding the biological impact of this issue, TMT members discussed the possible impacts of pool elevation on temperatures both at Lower Granite and the hatchery. Adams reported that Dworshak release temperatures were currently 49°, with all units in undershot mode, and that Lower Granite temperatures were running around 65.5°-- models show that continuing to run 14 kcfs out of Dworshak would keep the temperatures below the threshold at Lower Granite. Dave Wills, USFWS, clarified that the Dworshak Hatchery preference is for temperatures of no greater than 52°.

#### **Action/ Next Steps:**

- The COE will develop 'bookend' scenarios that show the effects of a lower pool elevation on temperatures and assumptions of how the COE would maintain release temperatures of no greater than 52°.
- The COE will send the scenarios out to TMT by 8/4, so that FPAC can discuss them at their 8/5 meeting.
- This item will be on the agenda for an 8/6 TMT conference call.
- In the meantime, if Dworshak release temperatures begin to approach 52 degrees, the COE will make necessary adjustments and notify TMT.

### **McNary Transport**

Dan Feil, COE, reported that seven barge loads of fish have been transported so far. As per the Fish Operations Plan, there will be a shift to truck transportation on 8/16. Feil clarified that although it is possible to transport up to 1750 lbs of fish per truck, the Bonneville release site will not be available until 8/8.

**Action/Next Steps:** FPAC will discuss the information and possibility of switching to truck transport before 8/16. An update on McNary Transportation conditions and discussion about truck transport will continue during the 8/6 TMT conference call.

### **Operations Review**

**Reservoirs:** Libby was at elevation 2444.2', with inflows of 13 kcfs and outflows of 10 kcfs. Albeni Falls was at 2062.25' (full pool) and passing inflows of 22.5-23 kcfs. Dworshak was at elevation 1583.9' with inflows of 2.5-3 kcfs and outflows of 14 kcfs. Lower Granite inflows were around 40-44 kcfs, and the project was operating within MOP elevation. McNary inflows were running 150-160 kcfs. Bonneville flows were in the range of 165-170 kcfs. Hungry Horse was at an elevation of 3555' with outflows in

the range of 6.4-6.5 kcfs. Grand Coulee was at 1286.2' and drafting to a target elevation 1280' by the end of August.

Other:

- The COE reported that flows had been reduced at Ice Harbor dam last week to below FOP spill for a few hours during a transition to lower flows and as the project came up against MOP. Robyn MacKay, BPA, referred TMT to a report submitted to the court (posted as a link to the TMT agenda) describing what happened and measures taken to correct the issue – she noted that more specific instructions were given to the schedulers to support the correction. MacKay noted the project operators' unintentional variance, and acknowledged that they could have transitioned more smoothly, even with the challenging complexities in the Snake River. Some consequences of going below MOP are that barges could hit bottom and fish ladders and other passage operations are impacted.
- Regarding the Libby/Hungry Horse operations report to the court, Jim Adams, COE, reported that the COE plans to submit this as part of their monthly report to the court, for July.
- Dan Feil, COE, reported that test periods ended for McNary and John Day TSW's, and that McNary would continue to operate alternating with TSW's, but that John Day, given that it is a new TSW, will not continue to operate the TSW. As this was a deviation from specific language in the FOP, the COE communicated this change with TMT and acknowledged that it could have been made clearer during the last report out to TMT.
- Ice Harbor sensor monitor installation work was completed on 7/29, and so normal operations were resumed at the project. There had been a two hour outage in bays 1-3 but no change in spill.
- Dave Wills reported a Spring Creek Hatchery request to lower the Bonneville pool for 2-3 hours to support cleaning of the fish ladder early next week, following the summer treaty fishery.
  - **Action:** Jim Adams, COE, said he would check with the regulators and notify Dave Wills and Kyle Dittmer of the approval and planned time for the reduction. The USFWS needed a day's notice to for the hatchery folks, and CRITFC needed to notify platform fishers of the change.

Fish: Paul Wagner, NOAA, reported that sub yearling passage numbers are winding down, with numbers ranging from 2,000-7,000 at Lower Granite, 2,000-9,000 at Little Goose and under 1,000 at Lower Monumental. Adult sockeye numbers totaled 213,000, steelhead totaled 128,000 (50,000 of those were wild) and summer Chinook numbers were winding down.

Power System: Nothing to report at this time.

Water Quality: Jim Adams, COE, reported that spill criteria are being met at all projects and that no TDG levels were down. Temperatures all around have been relatively low this year.

Spring flow objectives had been met and exceeded at Lower Granite, McNary and Priest Rapids this year. The summer result of summer objectives will be reported on at the TMT year end review later this year.

\*\*A correction was made to a statement made earlier re: MOP operations and requirements. The COE clarified that the federal dams do not require FERC licensing.

**Next TMT Meeting: 8/6 Conference Call**

- Dworshak Operations
- McNary Transport Update

**8/13 Face to Face Meeting**

Agenda items will include:

- Finalize notes/minutes
- 2008 Summer Treaty Fishing Report
- Dworshak Operations
- Libby/Hungry Horse Operations Update
- Operations Review

**Columbia River Regional Forum  
Technical Management Team Meeting  
July 30, 2008**

**1. Introduction**

Today's TMT meeting was chaired by Jim Adams (COE) and facilitated by Robin Gumpert (DS Consulting) with representatives of USFWS, BPA, COE, NOAA, BOR, CRITFC, Idaho, Montana, and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes**

The facilitator's notes and official minutes for the July 16 TMT meeting were finalized today.

**3. 2008 Summer Treaty Fishery – SOR 2008-C5**

Kyle Dittmer (CRITFC) presented this SOR. This fishery runs from July 28-31, 2008, the last of the summer season. The SOR calls for a 1-foot elevation band as a hard constraint on operation of the pools at Bonneville, John Day and The Dalles dams. Last week's net flight sponsored by CRITFC indicated the number of nets in the river is down to 154 as of last week, with 36% of those at Bonneville, 28% at The Dalles and 36% at John Day. The sockeye forecast has been updated to 213,500 sockeye at Bonneville Dam.

The COE will provide the same conditions for this fishery as it has for the previous treaty fisheries this year, Adams said, which includes a 1-foot soft constraint and 1.5-foot hard constraint on Bonneville pool operations. Normal operating range at The Dalles pool is 3 feet as a hard constraint, but the COE will operate it within a 1.5-foot range as a soft constraint for the fishery, with emphasis on evening hours. John Day pool will continue operating within its normal 1.5-foot range.

Dittmer will present a review of the summer fishery and describe how this fall's fishery is shaping up at the next regularly scheduled TMT meeting Aug. 13. Autumn fishing will begin during the third and fourth weeks of August.

**4. Libby and Hungry Horse Operations Update**

**A. Libby Dam.** Outflows of 13 kcfs are being maintained. The current elevation is 2444.2 feet. Inflows have dropped to 10 kcfs and the pool is being drafted slowly, targeting elevation 2,439 feet by end August.

Amy Reese (COE Seattle) presented forecast scenarios. Flows are seasonally low, with a 75% exceedance level which means that 75% of years have had higher flows on the same date. One of the main goals this year is not to allow the elevation to drop below 2,439 feet. Outflows are being ramped down from 13 to 12 kcfs on Friday, Aug. 1. The situation will be reevaluated Monday, Aug. 4. Another goal is to not let flows drop below 8 kcfs for bull trout in August. The ramp down now will help avoid that risk. Jim Litchfield (Montana) expressed appreciation for the slower ramp-down and advocated stabilizing flows at 12 kcfs for as long as possible.

Due to a drowning on July 27, flows dropped to a daily average of 5.9 kcfs and went down to 4 kcfs for a number of hours while officers searched for the body. It was never found, but a request for another ramp down seems unlikely. The brief ramp down will affect Montana's shorelines, but the way it was done probably had the least impact possible in these circumstances, Litchfield said.

**B. Hungry Horse Dam.** The current elevation is 3,555 feet, with releases of 6.4-6.5 kcfs. The latest 50 % ESP trace indicates that those outflows should continue to hit an end of August elevation of 3,540 feet. Inflows are around 2.2 kcfs and slowly coming down.

Adams notified TMT that the latest ESP plots are posted on the TMT page. Randy Wortman (COE) will continue to produce these ESP plots for Libby, Hungry Horse and Dworshak through mid August, per the request of several TMT members who were polled via email.

## ***5. Dworshak Operations Update***

The current elevation of Dworshak reservoir is 1,583.9 feet, with inflows of 2.5-3 kcfs and outflows of approximately 14 kcfs.

Adams and Steve Hall (COE) briefed TMT on a recent problem with RO gate #2 at Dworshak, which was found to be leaking. An inspection revealed that the eccentric arm used to seal off the gate was broken, and the resulting spill of a little more than 1 kcfs flowed into the dam, filling the galley passageways to the ceiling and blowing out the dam's lower doors. As a result, RO gate #2 will be out of service for several months. Only one bulkhead is available to shut off flow to the RO gates, now positioned in front of RO #2. (The COE is checking into whether a bulkhead at Libby Dam would fit the gates at Dworshak.) The remaining gates, RO #1 and #3, could have the same problem RO #2 had when it broke. If either of the remaining RO gates were to fail, the COE would have no way to shut off spill, which could drain Dworshak reservoir to elevation 1,350 feet where the sills of the gates are. That would be unacceptable, so the current plan is to get clearance for inspection of the remaining gates. The inspection will require a high level of security clearance because a loss of power to the gate cylinder would drown the person performing the inspection.

Without inspection, the RO gates will be unavailable for the rest of the summer. That could have two negative consequences. First, the spillway sill is at elevation 1,545 feet, the lowest elevation at which 4 kcfs can be spilled as free flow down the spillway. The spillway crest requires 5 feet of head to release 4 kcfs, or elevation 1,550 feet. The COE is hoping the reservoir will reach that elevation by Aug. 21 or 22. After that, it might become difficult to draw the reservoir down as planned, meaning there's a slight chance it won't make its end of August target of elevation 1,535 feet. TMT was asked today: How important is it to reach elevation 1,535 feet by end August?

The second issue is temperature control. The spillways are now passing very warm water. The Dworshak tailwater temperature is currently 49 degrees F, and that temperature will continue to rise as the reservoir elevation drops and even warmer water passes through the spillway. Hall will prepare and send TMT members a CEQUAL 2 analysis of how quickly temperatures can be expected to rise. The hatchery has requested that temperatures not exceed 52 degrees F due to an outbreak of IHN.

Operating just one of the RO gates isn't an option because the spillway is designed for balanced spill. If the gates are found to be in good condition, the COE will set them for a total outflow of about 3.5-4 kcfs through the end of August or whenever the reservoir reaches 1,535 feet elevation. The COE does not want to move them because it is possible the RO #2 gate failure was caused by frequent opening and closing.

Adams showed TMT a model run for Lower Granite. Temperatures in the Lower Granite tailwaters have been staying low, and predictions have matched observed temperatures well. Hall pointed out that the modeling was done based on Dworshak outflow temperatures of 47 degrees F, when they are really 49 degrees F. Nevertheless, the COE is not expecting any problems with Lower Granite outflow temperatures this year.

There was discussion of how important it is for Dworshak to reach elevation 1,535 feet by end August. Litchfield questioned whether it's worth putting a human life at risk in terms of actual biological impacts, even if the risk is slim. Dropping to full powerhouse around Aug. 20 would put the reservoir elevation at around 1,520 feet by Sept. 15, Hall said. The reservoir wouldn't reach elevation 1,535 feet by end August, but it would still meet its September elevation by shifting the water to a different point in time.

Russ Kiefer (Idaho) requested that the COE prepare temperature options so TMT can model the best possible in-river migration conditions for fish without undue risk to human health and safety, while meeting the hatchery's need for water temperatures no higher than 52 degrees F. The modeling could include alternatives of running 4 kcfs out vs. full powerhouse, Robyn MacKay (BPA) said.

The COE will circulate CEQUAL modeling among TMT members prior to a conference call next Wednesday, Aug. 6. Hall will model two scenarios: (1) the anticipated effects of the falling pool elevation on spillway temperatures, and how that will affect total discharge temperatures, and (2) the end of August elevation if outflows drop to full powerhouse, as well as the effects that operation would have on water temperatures at Lower Granite.

In the meantime, Adams said, if the COE sees Dworshak tailwater temperatures approach 52 degrees F, they will cut back on spill to accommodate the hatchery request. Current operations will continue unless Dworshak tailwater temperatures rise above 52 degrees F.

## ***6. McNary Transport Update***

The COE has barged seven loads of fish from McNary since the last TMT meeting. The FOP says trucking begins on Aug. 16 and lasts through the rest of the season. A truck holds approximately 1,750 pounds of fish. At McNary, 630 pounds of fish were recently collected, meaning it would be feasible to switch to truck transport now. However, the release site at Bonneville won't be available until around Aug. 8 due to construction. The Salmon Managers will consider a recommendation to switch to truck transportation before Aug. 16. This question will be on the agenda for next week's conference call.

## ***7. Operations Review***

**a. Reservoirs.** Libby is at elevation 2,444.2 feet, with outflows of 13 kcfs and inflows of 10 kcfs. Albeni Falls is at elevation 2,062.25 at the Hope gage and passing inflows of 22.5-23 kcfs.

Dworshak is at elevation 1,583.9 feet, with inflows down to 2.5-3 kcfs and outflows at 14 kcfs or full powerhouse plus spillway flows.

Inflows at Lower Granite are 40-44 kcfs (7-day average) and staying within the MOP elevation, with stable inflow rates. Inflows at McNary went up July 25-26 and came down again, now 150-160 kcfs (7-day average). Inflows at Bonneville are 165-170 kcfs (7-day average).

Grand Coulee is at elevation 1,286.20 feet, slowly drafting toward elevation 1,280 feet by end August. Hungry Horse is at elevation 3,555.0 feet, discharging 6.4-6.5 kcfs.

Flow Shaping in the Snake River: At the last meeting, the COE reported that spill reductions and variances out of MOP occurred over a period of time at Lower Monumental. There was reduced flow at Ice Harbor also, which went down to zero spill for approximately 1.5 hours when the pool was at critical bottom. BPA and the COE have worked together extensively on this problem.

Robyn MacKay (BPA) showed TMT the document BPA submitted to the court. She described the problem and the thorough investigation it is receiving. Over the past weekend when Grand Coulee was filling, schedulers allowed the Lower Monumental pool to get too close to MOP and had to cut spill. Since then, they've been told to cut spill sooner and recover the pool before it hits MOP, which will result in smoother transitions from now on. Spill was cut to zero because of a bounce in the reservoir caused by wave action. When the trough hit the gage, the pool elevation went below MOP. BPA considers this episode to be a variance. MacKay emphasized that it was not intentional. Managing low flows is tricky on the Snake River because the unit loadings don't have the same range other projects have. As a result, spill and generation levels have to be carefully balanced. BPA's schedulers are on point to do that better.

Russ Kiefer (Idaho) asked, what happens if flows go half a foot below MOP in the middle of the night? That's not supposed to happen, and if it does, project operators will respond, Don Faulkner (COE) said. The consequences of going below MOP would include barges scraping bottom, plus the dam operators would be violating a required operating parameter. Later, Faulkner noted that federal dams don't require FERC licensing due to federally authorized usage to maintain a navigation channel.

A requirement to operate above MOP is part of the Fish Passage Plan, Dan Feil (COE) said. All fish facilities were designed to operate above MOP. The wave phenomenon is more pronounced with sudden changes in flow, but it can happen even with a slow change, MacKay said. The phenomenon is still under investigation, Adams said. He showed TMT an addendum to a letter addressed to Judge Redden, signed by the Department of Justice.

Other Operational Issues: The COE hasn't received feedback yet on its submittal to the courts regarding Libby operations, Adams said. He reaffirmed that the TSWs at McNary will continue to be operated following a 40/60% spill regime alternating every 2 days. However, the TSWs at John Day are new this year, and they will be shut down when testing is complete because their effects are still unknown. Furthermore, bays 15 and 16 with the TSWs are normally not used in the existing spill pattern when flows go down at John Day. Russ Kiefer (Idaho) confirmed that, once he received technical information on the TSW shutdown, he was comfortable with it. Earlier, he'd questioned it as a deviation from the FOP. However, it's standard practice when testing new technologies to revert to standard operations until the effects on fish passage and survival are known.

Dan Feil gave an update on work at Ice Harbor, where a recent outage of three spill bays included those holding the TSWs. Installation of sensors to monitor RSW vibrations was completed on July 29, 2008, during a 2 hour outage

of bays 1 and 3. Spill was shifted during the installation such that spill levels didn't change, and the only effect was taking the TSWs offline for 2 hours.

On July 28, Dave Wills (USFWS) received a request from the Spring Creek Hatchery manager to reduce the Bonneville pool elevation by 3 feet for 2-3 hours so they can clean the fish ladder for this year's return season. USFWS contacted CRITFC this week regarding flow needs for the fishery. This week is the last week until around Aug. 18, which coincided with the hatchery's desires to get the cleaning done as soon as possible. The hatchery manager needs 2-3 hours' notice and the pool to be at elevation 72 feet. The work needs to be done by mid to late August when tule returns begin. Adams will look into accommodating this request.

**b. Fish.** Things are winding down even for subyearlings, Paul Wagner said, but not as far down as in previous years. Index counts at Lower Granite were 2-7,000 fish; at Little Goose 2-9,000 fish; less than a thousand fish at Lower Monumental. McNary has passed 15-25,000 fish per day in the past week or so. Counts at Bonneville, John Day and McNary are down to less than 10,000 fish per day.

Adult sockeye counts were ultimately 213,000 at Bonneville; current passage numbers are down to single digits. Steelhead have done quite well this year, with a count of 128,000 total, 51,000 of them wild fish. Summer Chinook are down to several hundred per day, with a seasonal total of 77,000 fish which is well above the 10-year average.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** Flows are running low, and spill criteria are being met at all projects, Adams reported. TDG levels are low as are water temperatures, except for the 65.5 degrees F temperature issue at Lower Granite tailwater. Adams explained that the red numbers in TDG documentation attached to today's agenda are bad readings and will be deleted in revised data.

Adams reported on how well the COE met spring flow objectives:

- Lower Granite – The spring objective is 85 kcfs; actual flows in 2008 were 99 kcfs as a seasonal average.
- McNary – The spring objective is 237 kcfs; actual flows in 2008 were 287 kcfs as a seasonal average.
- Priest Rapids – The spring objective is 135 kcfs; actual flows in 2008 were 168 kcfs as a seasonal average.

Adams did not have numbers for summer yet because the analysis is not completed. Based on preliminary objectives, it appears unlikely that summer flow objectives will be met. This can be discussed at the year-end TMT review.

## ***10. Next Meeting***

The next regularly scheduled TMT meeting will be on Aug. 13, possibly at NOAA's Portland offices. The agenda will include the 2008 summer treaty fishery review, a Libby and Hungry Horse update, Dworshak operations, and the usual operations review.

A conference call was scheduled for Aug. 6 to check in on Dworshak operations and the transition from barge to truck transportation at McNary. This summary prepared by consultant and writer Pat Vivian.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Dave Wills	USFWS
Robyn MacKay	BPA
Jim Adams	COE
Russ Kiefer	Idaho
Dan Feil	COE
John Roache	BOR
Paul Wagner	NOAA
Jim Litchfield	Idaho
Kyle Dittmer	CRITFC
Russ George	WMC

### ***Phone:***

Amy Reese	COE Seattle
Shane Scott	PPC
Dave Benner	FPC
Barry Espensen	CBB
Tom Le	Puget Sound Energy
Bob Diaz	PPM
Laura Hamilton	COE
Richelle Beck	DRA
Rudd Turner	COE
Don Faulkner	COE
Steven Hall	COE Walla Walla
Dale Lentz	COE Walla Walla